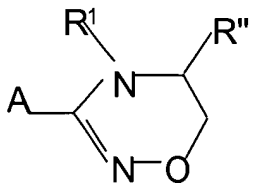
What is claimed is:

1. A method of increasing expression of a molecular chaperon by an eukaryotic cell comprising:

treating an eukaryotic cell of a living mammalian organism that is exposed to a physiological stress accompanying allergic diseases, immune diseases, autoimmune diseases, diseases of viral or bacterial origin, tumorous, skin and/or mucous diseases, epithelial disease of renal tubulus, atherosclerosis, coronarial disease, pulmonary hypertonia, cerebrovascular ischemia, stroke, or traumatic head injury with an effective amount of a chemical compound to increase the expression of the molecular chaperon by the cell beyond the amount induced by the physiological stress, wherein the chemical compound is one or more of a hydroxylamine derivative represented by formula (I"),



or a salt thereof or any optically active streoisomer thereof, wherein

R" is alkyl or substituted alkyl,

A is unsubstituted or substituted aryl or heteroaryl, and

R^1 is H, unsubstituted or substituted straight or branched alkyl, cycloalkyl, aralkyl, or aralkyl substituted in the alkyl and/or aryl moiety.

2. The method according to claim 1 wherein the cell is treated before the physiological stress.

3. The method according to claim 1 wherein the cell is treated after the physiological stress.

4. The method of claim 1 wherein the cell is a neuronal cell, muscle cell, vessel wall cell, epithelial cell or a cell of the immune system.

5. The method of claim 1 wherein the physiological stress is metabolic, oxidative or local mechanical stress or a stress caused by hypoxia, heat shock, radiation or toxic materials.

6. The method of claim 1 wherein the physiological stress causes an increase of reactive free radicals or a cytokine present in the area surrounding the cell.

7. The method of claim 1 wherein one or more of the skin or mucosal disease is caused by dermatosis or ulcerous disease of the gastrointestinal system provoked by physiological stress.

8. The method of claim 1 wherein the molecular chaperon is a heat shock protein (hsp).

9. The method of claim 8 wherein the hsp is hsp70 or hsp72.

10. The method of claim 1, wherein R" is ω-amino-alkyl which may be substituted on the amino and/or alkyl chain, and wherein the alkyl chain has 1 to 5 carbon atoms.

11. The method of claim 10 wherein R" is an ω-amino-alkyl mono- or disubstituted on the amino, and wherein the amino substituent or substituents, independently, are one or two straight or branched alkyl or cycloalkyl, or the two amino substituents, together with the nitrogen atom attached thereto, form a 3 to 7-membered saturated hetero ring, which may contain additional hetero atoms.

12. The method of claim 1 wherein A is

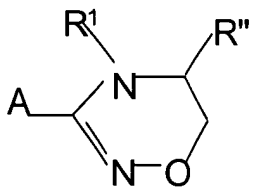
phenyl,

phenyl substituted with one or more alkyl, halo, alkoxy, haloalkyl or nitro, or

naphtyl or N-containing heteroaryl which may be condensed with a benzene ring, or an S-containing or O-containing heteroaryl.

13. A method of increasing activity of a molecular chaperon in an eukaryotic cell of a living mammalian organism that is exposed to a physiological stress comprising:

treating the cell that is exposed to a physiological stress accompanying allergic diseases, immune diseases, autoimmune diseases, diseases of viral or bacterial origin, tumorous, skin and/or mucous diseases, epithelial disease of renal tubulus, atherosclerosis, coronarial disease, pulmonary hypertonia, cerebrovascular ischemia, stroke, or traumatic head injury with an effective amount of a chemical compound to increase the activity of the molecular chaperon in the cell beyond the amount induced by the physiological stress, wherein the chemical compound is one or more of a hydroxylamine derivative represented by formula (I"),



or a salt thereof or an optically active stereoisomer thereof,

wherein R" is alkyl or substituted alkyl,

A is unsubstituted or substituted aryl or heteroaryl, and

R^1 is H, unsubstituted or substituted straight or branched alkyl, cycloalkyl, aralkyl, or aralkyl substituted in the alkyl and/or aryl moiety.

14. The method of claim 13, wherein the mammalian cell is a human cell.

15. The method of claim 13 wherein the physiological stress is metabolic, oxidative or local mechanical stress or a stress caused by hypoxia, heat shock, radiation or toxic materials.

16. The method of claim 13 wherein the physiological stress causes an increase of reactive free radicals or a cytokine present in the area surrounding the cell.

17. The method of claim 13 wherein one or more of the skin or mucosal disease is caused by dermatosis or ulcerous disease of the gastrointestinal system provoked by physiological stress.

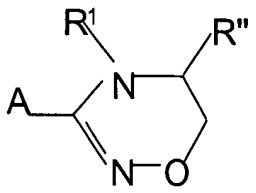
18. The method of claim 13 wherein the molecular chaperon is a heat shock protein (hsp).

19. The method of claim 18 wherein the hsp is hsp70 or hsp72.

20. A method of treating a disease connected with the function of the chaperon system or associated with the injury of the membrane of a cell or cell organellum or preventing the same which comprises:

administering to a host that has been exposed to a physiological stress accompanying allergic diseases, immune diseases, autoimmune diseases, diseases of viral or bacterial origin, tumorous, skin and/or mucous diseases, epithelial disease of renal tubulus, atherosclerosis, coronarial disease, pulmonary hypertonia, cerebrovascular ischemia, stroke, or traumatic head injury an effective amount of a chemical compound to increase the expression of a

molecular chaperon by cells of the host beyond an amount induced by the physiological stress to ameliorate the effect caused by the pathological condition in the organism, wherein the chemical compound is one or more of a hydroxylamine derivative represented by formula (I"),



or a salt thereof or an optically active stereoisomer thereof, wherein

R" is alkyl or substituted alkyl,

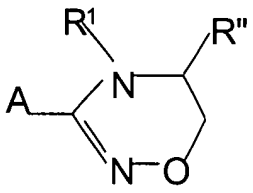
A is unsubstituted or substituted aryl or heteroaryl, and

R^1 is H, unsubstituted or substituted straight or branched alkyl, cycloalkyl, aralkyl, or aralkyl substituted in the alkyl and/or aryl moiety.

21. The method of claim 20, wherein the pathological condition is selected from the group consisting of a neoplastic disease, an infection caused by a pathogenic microorganism, an autoimmune disease and dermatosis.

22. The method of claim 20 wherein the host is a human organism.

23. Hydroxylamine derivatives of the formula (I"),



wherein

A is phenyl or phenyl substituted with halo or nitro or an N-containing heteroaryl group,

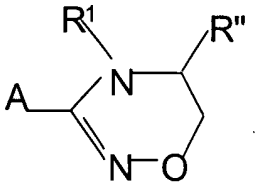
R^1 is H and

R" is ω-aminoalkyl which is mono- or disubstituted on the amino group, wherein the alkyl chain has 1 to 5 carbon atoms and the amino substituent or substituents may be independently one or two straight or branched alkyl or cycloalkyl, or the two amino substituents, when taken together with the N-atom attached thereto, form a 3 to 7-membered heterocyclic ring, or the N-C_{1-4} alkyl-quaternary derivative or the N-oxide thereof, with the proviso, that

when A is 3-pyridyl, R" is other than l-piperidinyl-methyl.

24. The hydroxylamine derivatives of claim 23 wherein A is pyridyl.

25. Pharmaceutical composition, and said composition's pharmaceutically acceptable carriers and auxiliaries, for the treatment of cardiovascular, vascular, cerebral, allergic, immune, autoimmune diseases, diseases caused by viral or bacterial infections, tumorous, skin or mucosal diseases, wherein composition contains 0.5 to 99.5% by weight of a hydroxylamine compound of the formula (I")



wherein A is phenyl or phenyl substituted with halo or nitro or an N-containing heteroaryl group,

R^1 is H and

R" is ω-aminoalkyl which is optionally mono- or disubstituted on the amino group, wherein the alkyl chain has 1 to 5 carbon atoms and the amino substituents may be independently from each other one or two straight or branched alkyl or cycloalkyl or the two amino substituents, when taken together with the N-atom attached thereto form a 3 to 7-membered heterocyclic ring, or the N-C_{1-4} alkyl-quaternary derivative or the N-oxide thereof, with the proviso, that

when A is 3-pyridyl, R" is other than l-piperidinyl-methyl.